



## David Moser

EURAC Research  
Institute for Renewable Energy

*Group Leader*

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### Main fields of activity

- Indoor and outdoor characterisation of PV modules
- Monitoring of outdoor PV plants
- Coordination of research projects and implementation of applied research
- Activities in the field of renewable energy
- Modelling and analysis of energy systems
- Supervision of Master and PhD theses

### Personal data

- Born in Bolzano/Bozen - Italy, March 07, 1980
- Nationality Italian
- Married
- Language skills: Italian (mother tongue), English (fluent), German (very good), Spanish (very good) and Swedish (basic)

### Professional experience

- Since 2013: Member of the Board of Directors of EUREC
- Since 2012: Senior Researcher at the Institute for Renewable Energy, EURAC, Bolzano/Bozen - Italy
- 2009-2011: Research Assistant/Research Fellow at the Institute for Materials Research, Salford University - UK
- 2007-2008: Marie Curie fellow at the Institute for Materials Research, Salford University - UK
- 2006-2007: Marie Curie fellow at the Department of Structural Chemistry, Stockholm University - Sweden

### Education

- PhD (Salford University - UK, Prof. Keith Ross, 2010) "Stability of Transition Metal Doped Magnesium Hydride High-Pressure Phases"
- MSc. Double Degree in Physics (University of Tuebingen - Germany and University of Trento - Italy, 2006) "Structural Characterisation of Mg-based Materials for Hydrogen"
- BSc. in Physics (University of Trento - Italy, 2003) "Hydrogen storage in Mg-Alloys"

## Programming skills

- Programming Languages: C++, Pascal, HTML, PHP (basic), Visual Basic, Java (basic), MySQL (basic)
- Operative Systems: Windows, Linux
- Other interesting programs: LATEX, Open Office, Office, Origin, Gnuplot, Homer, PVSOL

## Main interests

- Photovoltaics, building integrated photovoltaic, solar resources
- Electric storage
- Energy scenarios and policies

## Main projects (last 5 years)

- Flexi-BIPV (EFRE South Tyrol), 2013-2015
- CommONEnergy (FP7), 2013-2017
- Solar Design (FP7), 2013-2015
- Solar Tirol (INTERREG), 2013-2015
- PV-Initiative (EFRE South Tyrol), 2012-2014
- PV-Alps (INTERREG), 2012-2014

## Scientific Publications (last 5 years)

- Experimental investigation of a low cost passive strategy to improve the performance of Building Integrated Photovoltaic systems, L Maturi, R Lollini, D Moser, W Sparber, *Solar Energy* **111**, 288-296
- The PV Potential of South Tyrol: An Intelligent Use of Space, D Moser, D Vettorato, R Vaccaro, M Del Buono, W Sparber, *Energy Procedia* **57**, 1392-1400
- BiPV System Performance and Efficiency Drops: Overview on PV Module Temperature Conditions of Different Module Types, L Maturi, G Belluardo, D Moser, M Del Buono, *Energy Procedia* **48**, 1311-1319
- Sun Tracker Performance Analysis for Different Solar Module Technologies in an Alpine Environment, P Ingenhoven, G Belluardo, D Moser, W Sparber, *Journal of Solar Energy Engineering* **136** (3), 031005
- Filtering Procedures for Reliable Outdoor Temperature Coefficients in Different Photovoltaic Technologies, D Moser, M Pichler, M Nikolaeva-Dimitrova, *Journal of Solar Energy Engineering* **136** (2), 021006
- Wind Effect on PV Module Temperature: Analysis of Different Techniques for an Accurate Estimation, C Schwingshackl, Marcello Petitta, Jochen Ernst Wagner, Giorgio Belluardo, David Moser, Mariapina Castelli, Marc Zebisch, Anke Tetzlaff, *Energy Procedia* **40**, 77-86
- A Round Robin Test exercise on hydrogen absorption/desorption properties of a magnesium hydride based material, P Moretto, C Zlotea, F Dolci, A Amieiro, J-L Bobet, A Borgschulte, D Chandra, H Enoki, Patricia De Rango, Daniel Fruchart, J

Jepsen, Michel Latroche, I Llamas Jansa, D Moser, S Sartori, SM Wang, JA Zan, *International Journal of Hydrogen Energy* **38** (16), 6704-6717

- Low frequency sound propagation in activated carbon, F Bechwati, MR Avis, DJ Bull, TJ Cox, JA Hargreaves, D Moser, DK Ross, O Umnova, R Venegas, *The Journal of the Acoustical Society of America* **132** (1), 239-248
- Investigation of Counterion Influence on an Octahedral IrH(6)-Complex in the Solid State Hydrides AAeIrH(6) (A = Na, K and Ae = Ca, Sr, Ba, and Eu) with a New Structure Type, Kadir, K.; Moser, D.; Munzel, M.; Noreus, D., *INORGANIC CHEMISTRY*, 2011, **50**(23), 11890-11895
- The pressure-temperature phase diagram of MgH(2) and isotopic substitution, Moser, D.; Baldissin, G.; Bull, D.J.; Riley, D.J.; Morrison, I.; Ross, D.K.; Oates, W.A.; Noreus, D., *JOURNAL OF PHYSICS-CONDENSED MATTER*, 2011, **23**(30), 305403
- Hardness determination of bio-ceramics using Laser-Induced Breakdown Spectroscopy, Cowpe, J.S.; Moorehead, R.D.; Moser, D.; Astin, J.S.; Karthikeyan, S.; Kilcoyne, S.H.; Crofts, G.; Pilkington, R.D., *SPECTROCHIMICA ACTA PART B-ATOMIC SPECTROSCOPY*, 2011 **66**(3-4), 290-294
- In situ powder neutron diffraction study of non-stoichiometric phase formation during the hydrogenation of Li(3)N, Bull, D.J.; Sorbie, N.; Baldissin, G.; Moser, D.; Telling, M.T.F.; Smith, R.I.; Gregory, D.H.; Ross, D.K., *FARADAY DISCUSSIONS*, 2011, **151**, 263-270

#### Conference contributions (last 5 years)

- ARCHITECTURAL INTEGRATION OF PHOTOVOLTAIC SYSTEMS IN HISTORIC DISTRICTS. THE CASE STUDY OF SANTIAGO DE COMPOSTELA, E Lucchi, G Garegnani, L Maturi, D Moser, *International Conference in Energy Efficiency in Historic Buildings* **29**, 30<sup>th</sup>, 2014
- Solar Tyrol project: using climate data for energy production estimation. The good practice of Tyrol in conceptualizing climate services, M Petitta, J Wagner, A Costa, R Monsorno, M Innerebner, D Moser, etc, EGU General Assembly Conference Abstracts **16**, 6740
- Vehicle-integrated Photovoltaic (ViPV) systems: Energy production, Diesel Equivalent, Payback Time; an assessment screening for trucks and busses, L Kronthaler, L Maturi, D Moser, L Alberti, *Ecological Vehicles and Renewable Energies (EVER)*, 2014 Ninth International Conference on, IEEE, 1-8, 2014
- Evaluation of Spectral Effect on Module Performance Using Modeled Average Wavelength, G. Belluardo, J. Wagner, A. Tetzlaff, D. Moser, *28th European Photovoltaic Solar Energy Conference and Exhibition*, 3561 – 3566, 2013
- Temperature Dependence of Shunt and Series Resistances of Different PV Module Technologies, L. Kronthaler, S. Weber, P. Ingenhoven, L. Alberti, D. Moser, *28th European Photovoltaic Solar Energy Conference and Exhibition*, 3246 – 3250, 2013
- Using Broadband Irradiance Data to Model the Short Circuit Response of aSi-Modules, H.G. Beyer, A.G. Imenes, G. Belluardo, D. Moser, *28th European Photovoltaic Solar Energy Conference and Exhibition*, 3964 – 3967, 2013

- Medium-Term Degradation of Different Photovoltaic Technologies under Outdoor Conditions in Alpine Area, G. Belluardo, P. Ingenhoven, D. Moser, *28th European Photovoltaic Solar Energy Conference and Exhibition*, 4318 – 4321, 2013
- Analysis of Electric Energy Self-Consumption Maximisation for Two Different Grid-Connected BIPV Systems, L. Kronthaler, G. Belluardo, F. Roberti, W. Bresciani, D. Moser, *28th European Photovoltaic Solar Energy Conference and Exhibition*, 4758 – 4761, 2013
- Monitoring of Photovoltaic Systems: Good Practices and Systematic Analysis, A Woyte, M Richter, D Moser, S Mau, N Reich, U Jahn, *Proc. 28th European Photovoltaic Solar Energy Conference*, 3686-3694, 2013
- 1-Year Performance of Crystalline Technologies on Different Tracking Systems, G Belluardo, D Moser, M Pichler, M Nikolaeva-Dimitrova, *27th European Photovoltaic Solar Energy Conference and Exhibition*, 24-28, 2012
- One-year comparison of different thin film technologies at Bolzano Airport Test Installation, G Belluardo, M Pichler, D Moser, M Nikolaeva-Dimitrova, *Fuelling the Future: Advances in Science and Technologies for Energy Generation, Transmission and Storage*, 229-234, 2012
- 6 Months Monitoring of Roof Integrated Modules and Performance Comparison in Different Installation Types, D Moser, W Bresciani, M Nikolaeva-Dimitrova, L Maturi, *EuroSun, Rijeka*, 2012

#### **Other publications**

- Il potenziale fotovoltaico dell'Alto Adige: Uso intelligente degli spazi, 2014
- Analytical Monitoring of PV Systems, A. Woyte, M. Richter, D. Moser, N. Reich, M. Green, S. Mau, H.G. Beyer, IEA PVPS Task 13, Report IEA-PVPS T13-03:2014
- Characterization of Performance of Thin-film Photovoltaic Technologies, TJ Silverman, U Jahn, G Friesen, M Pravettoni, M Apolloni, A Louwen, WGJHM van Sark, M Schweiger, G Belluardo, J Wagner, A Tetzlaff, P Ingenhoven, D Moser, IEA PVPS Task 13, Report IEA-PVPS T13-02:2014

#### **Lectures**

- Coordinator and lecturer of 2nd year Physics module Condensed Matter at the University of Salford - UK, 2011

#### **Public engagement**

- Lunga notte della ricerca, Bolzano, 2012, 2014
- Manchester Science Festival October 2011
- Manchester Museum of Science and Industry: Energy theme, September 2011
- Meet the Scientist at Manchester Museum of Science and Industry, July 2011
- Manchester Science Festival October 2010